Heteroscedastic nonlinear regression by using Tanh psi function

ABSTRACT

This article is concerned with the extension of heteroscedastic nonlinear regression estimation by using Tanh Psi function. The robustness properties of the Tanh's and Hampel's Weighted MM (WMM) estimators were investi-gated. In our simulation study, it has been shown that the biases and RMSE'S of the Hampel's estimates increase appreciably higher than the Tanh's estimates as the percentage of outliers increases. Hence, by utilising the Tanh's rho function in the WMM estimator, the accuracy and the efficiency of the estimates can be improved substantially.

Keyword: Heteroscedastic nonlinear regression; Tanh psi